

U.S. Patent Application No. 09/816,333  
Attorney's Docket No. F0691

**Amendments to the Drawings:**

Please replace Figure 3, as originally filed, with the attached replacement sheet of Figure 3.

**REMARKS**

Applicants respectfully request that the application be reconsidered in view of the above amendments and the following remarks. In the Office Action, dated October 20, 2004, the Examiner objected to claims 1, 3, 8, 13-16 and 18-20 as containing alleged informalities. The Examiner further objected to the drawings as allegedly failing to comply with 37 C.F.R. § 1.84(p)(4). The Examiner additionally rejected claims 1, 6, 7, 9, 12, 14 and 17 as allegedly being anticipated by U.S. Patent No. 6,466,580 (hereinafter "LEUNG"). The Examiner further rejected claims 2-5, 10, 11, 15, 16, 19 and 20 as allegedly being unpatentable over LEUNG in view of U.S. Patent No. 6,728,213 (hereinafter 'TZENG'). Applicants note with appreciation the Examiner's indication of allowable subject matter in claims 8, 13 and 18.

By way of this amendment, Applicants have submitted a replacement sheet for FIG. 3 to correct the informalities noted by the Office Action. Applicants have further amended the specification to reflect the change made to FIG. 3. Claims 1, 19 and 14 have been amended to improve form and not for any reason related to the patentability of these claims. No new matter has been added by the present amendment. Reconsideration of the outstanding rejections is respectfully requested in view of the amendments above and the following remarks.

In paragraph 1, the Office Action objects to the language "configured to" recited in claims 1, 3, 8, 13-16 and 18-20. Applicants note, however, that a "fundamental principle contained in 35 U.S.C. § 112, second paragraph is that applicants are their own lexicographers." M.P.E.P. § 2173.01. An Applicant may define their invention in "whatever terms they choose" including using "functional language, alternative expressions, negative limitations, or *any style of expression or format of claim which makes clear the boundaries of the subject matter for which*

*protection is sought*" (emphasis added). M.P.E.P. § 2173.01. Applicants believe that the various features recited in claims 1, 3, 8, 13-16 and 18-20, that include the language "configured to," are not indefinite, and make clear the boundaries of the subject matter for which protection is sought. Applicants, therefore, submit that claims 1, 3, 8, 13-16 and 18-20 comply with the applicable requirements related to claim terminology and claim definiteness, and, thus, withdrawal of the Office Action's objection to these claims is respectfully requested.

In paragraph 2, the Office Action objects to the drawings as allegedly failing to comply with 37 C.F.R. § 1.84(p)(4). Specifically, the Office Action notes that the reference character 340 has been used to designate both the Action Generator and the Output Control Queues in FIG. 3. By way of the replacement sheet for FIG. 3, Applicants have changed the reference character for the Output Control Queues from 340 to 350. Action Generator 340 and Output Control Queues 350 now, thus, have different reference characters. In view of this change to FIG. 3, Applicants request that the objection to the drawings under 37 C.F.R. § 1.84(p)(4) be withdrawn.

In paragraph 4, the Office Action rejects pending claims 1, 6, 7, 9, 12, 14 and 17 under 35 U.S.C. §102(e) as allegedly being anticipated by LEUNG. Applicants respectfully traverse.

Amended independent claim 1 recites, for example, a "system for identifying priority level information for a data frame received by a network device" that includes "a plurality of input ports configured to receive a plurality of data frames, each of the received data frames specifying at least one of a plurality of classes of service," "a memory configured to store priority level information corresponding to each of the plurality of classes of service," "an action generator configured to generate an action tag for each of the received data frames," and "a port vector queue configured to use the action tag from the action generator for each of the received

data frames to access the memory to identify the priority level information associated with the received data frame.”

A proper rejection under 35 U.S.C. §102 requires that a reference teach every aspect of the claimed invention. LEUNG does not disclose or suggest the combination of features recited in Applicants' amended claim 1. For example, LEUNG does not disclose or suggest a “a memory configured to store priority level information corresponding to each of the plurality of classes of service” and “a port vector queue configured to use the action tag from the action generator for each of the received data frames to access the memory to identify the priority level information associated with the received data frame,” as recited in claim 1. The Office Action relies on column 1, line 1; column 5, lines 26-27; column 5, lines 29-34 and column 5, lines 34-40 of LEUNG for allegedly disclosing the various features of claim 1 (Office Action, pg. 3). Applicants respectfully submit that these sections of LEUNG do not disclose or suggest the above-noted features of claim 1.

At column 1, line 1, LEUNG discloses:

The IRC 40 monitors (i.e., "snoops") the data bus to determine the frame pointer value and the header information of the received packet (including source, destination, and VLAN address information).

This section of LEUNG, thus, merely discloses that the internal rules checker (IRC) 40 “watches” the data bus to analyze header information of received data frames. This section of LEUNG does not disclose, or even suggest, “a memory configured to store priority level information corresponding to each of the plurality of classes of service” and “a port vector queue configured to use the action tag from the action generator for each of the received data frames to

access the memory to identify the priority level information associated with the received data frame,” as recited in claim 1.

At column 5, lines 26-34, LEUNG discloses:

The internal rules checker 40 outputs a forwarding decision to the switch subsystem 42 in the form of a forwarding descriptor. The forwarding descriptor includes a priority class identifying whether the frame is high priority or low priority, a port vector identifying each MAC port that should receive the data frame, Rx port number, an untagged set field, VLAN information, opcode, and frame pointer. The port vector identifies the MAC ports to receive the frame data for transmission (e.g., 10/100 MAC ports 1-12, Gigabit MAC port, and/or Expansion port).

This section of LEUNG merely discloses that IRC 40, based on header information contained in received data frames, outputs data (i.e., a forwarding “descriptor”) to switch subsystem 42 that includes a priority class that identifies whether the frame is high priority or low priority. This section of LEUNG does not disclose, or even suggest, “a memory configured to store priority level information corresponding to each of the plurality of classes of service” and “a port vector queue configured to use the action tag from the action generator for each of the received data frames to access the memory to identify the priority level information associated with the received data frame,” as recited in claim 1.

At column 5, lines 34-40, LEUNG discloses:

The port vector FIFO 56 decodes the forwarding descriptor including the port vector, and supplies the frame pointers to the appropriate output queues 58 that correspond to the output MAC ports to receive the data packet transmission. In other words, the port vector FIFO 56 supplies the frame pointer on a per-port basis. The output queues 58 fetch the data frame identified in the port vector from the external memory 36 via the external memory interface 44, and supply the retrieved data frame to the appropriate transmit FIFO of the identified ports.

This section of LEUNG, thus, merely discloses that port vector FIFO 56 receives the forwarding “descriptor” from IRC 40 and then passes a frame pointer to an appropriate output queue 58 based on the priority level information associated with the data frame corresponding to the frame pointer. Output queues 58 fetch the data frame, using the frame pointer, from an external memory 36 and provide the retrieved data frame to an appropriate transmit FIFO. This section of LEUNG, however, does not disclose, or even suggest, “a memory configured to store priority level information corresponding to each of the plurality of classes of service” and “a port vector queue configured to use the action tag from the action generator for each of the received data frames to access the memory to identify the priority level information associated with the received data frame,” as recited in claim 1.

As discussed above with respect to the sections cited by the Office Action, LEUNG discloses the transmission of a forwarding descriptor, that includes an identification of a priority class for a corresponding received data frame, from an internal rules checker 40 to a port vector FIFO 56. The port vector FIFO 56 decodes the forwarding descriptor and then supplies a frame pointer to an output queue 58. In response to receiving the frame pointer, output queue 58 fetches the data frame, using the frame pointer, from an external memory 36 and supplies the retrieved data frame to a transmit FIFO. LEUNG, thus, discloses the receipt and temporary storage of a forwarding descriptor, at port vector FIFO 56, that includes an identification of a single priority class for the data frame that corresponds to the forwarding descriptor, and provision of a frame pointer to an output queue 58 based on contents of the forwarding descriptor. LEUNG, however, does not disclose, or even suggest, a memory configured to store priority level information corresponding to *each of a plurality of classes of service*, and use of an

action tag to *access the memory to identify priority level information* associated with a received data frame, as recited in amended claim 1.

For at least the foregoing reasons, Applicants submit that claim 1 is not anticipated by LEUNG.

Claims 6 and 7 depend from claim 1 and, therefore, patentably distinguish over LEUNG for at least the reasons set forth above with respect to claim 1.

Amended independent claim 9 recites a “method for identifying priority level information for a data frame received by a network device” that includes “programming a memory with priority level information corresponding to each class of service of a plurality of classes of service,” “receiving a plurality of data frames, each of the received data frames specifying at least one of the classes of service,” “generating an action tag for each of the received data frames,” and “accessing the memory to identify the priority level information associated with each of the received data frames using the action tags corresponding to the received data frames.” LEUNG does not disclose or suggest the combination of features recited in amended claim 9.

As discussed above with respect to claim 1, LEUNG discloses the transmission of a forwarding descriptor, that includes an identification of a priority class for the corresponding received data frame, from an internal rules checker 40 to a port vector FIFO 56. The port vector FIFO 56 decodes the forwarding descriptor and then supplies a frame pointer to an output queue 58. In response to receiving the frame pointer, output queue 58 fetches the data frame, using the frame pointer, from an external memory 36 and supplies the retrieved data frame to a transmit FIFO. LEUNG, thus, merely discloses the receipt and temporary storage of a forwarding

descriptor, at port vector FIFO 56, that includes an identification of a single priority class for the data frame that corresponds to the forwarding descriptor, and provision of a frame pointer to an output queue 58 based on contents of the forwarding descriptor. LEUNG does not disclose, or even suggest, “programming a memory *with priority level information corresponding to each class of service of a plurality of classes of service*” and “*accessing the memory to identify the priority level information* associated with each of the received data frames using the actions tags corresponding to the received data frames.” For at least the foregoing reasons, Applicants submit that claim 9 is not anticipated by LEUNG.

Claim 12 depends from claim 9 and, therefore, patentably distinguishes over LEUNG for at least the reasons set forth above with respect to claim 9.

Amended independent claim 14 recites a “multiport network device” that includes “a plurality of input ports configured to receive a plurality of data frames, each of the data frames specifying at least one of a plurality of classes of service,” “a plurality of output ports configured to transmit at least some of the data frames,” “a plurality of priority queues associated with each of the output ports,” “a memory configured to store priority level information corresponding to each of the plurality of classes of service,” “an action generator including an action memory configured to store a plurality of entries, a decoder configured to identify one of the entries in the action memory for each of the data frames, and a tag generator configured to generate an action tag based on the entry identified for each of the data frames,” and “a port vector queue configured to access the memory to identify the priority level information associated with each of the data frames using the action tag from the action generator for the data frame and identify

one of the priority queues based on the identified priority level information for the data frame.”

LEUNG does not disclose or suggest the combination of features recited in amended claim 14.

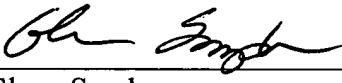
As discussed above with respect to claim 1, LEUNG discloses the receipt and temporary storage of a forwarding descriptor, at port vector FIFO 56, that includes an identification of a single priority class for the data frame that corresponds to the forwarding descriptor, and provision of a frame pointer to an output queue 58 based on contents of the forwarding descriptor. LEUNG does not disclose, or even suggest, a memory configured to store priority level information *corresponding to each of a plurality of classes of service* and a port vector queue configured to *access the memory to identify the priority level information* associated with each of the data frames using an action tag, as recited in claim 14. For at least the foregoing reasons, Applicants submit that claim 14 is not anticipated by LEUNG.

In paragraph 6, the Office Action rejects pending claims 2-5, 10, 11, 15, 16, 19 and 20 under 35 U.S.C. §103(a) as allegedly being unpatentable over LEUNG in view of TZENG. Applicants submit that, because LEUNG, TZENG and the present application were subject to an obligation of assignment to Advanced Micro Devices, Inc. at the time the present invention was made, that neither LEUNG nor TZENG are available as references under 35 U.S.C. §103(a). 35 U.S.C. §103(c) states “[s]ubject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.” Applicants submit that the subject matter disclosed in LEUNG and TZENG, and the invention claimed in the present application, were subject to an

obligation of assignment to Advanced Micro Devices, Inc. The present application is assigned to Advanced Micro Devices, Inc. and, as can be seen from the assignee information on the first page of both LEUNG and TZENG, these two patents are also assigned to Advanced Micro Devices, Inc. Since the present application and both LEUNG and TZENG were all either assigned to Advanced Micro Devices, Inc., or subject to an obligation of assignment to Advanced Micro Devices, Inc. at the time the invention was made, the subject matter disclosed in LEUNG and TZENG cannot be used to reject the claims of the present application under 35 U.S.C. §103. Withdrawal of the rejection of claims 2-5, 10, 11, 15, 16, 19 and 20 is, therefore, respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of this application, and the timely allowance of the pending claims. To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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